

## CLAIMS

1. A communication system having a downlink data channel (122) for the transmission of data packets from a primary station (100) to a secondary station (110) and uplink and downlink control channels (124, 122) for the transmission of control information between the primary and secondary stations, wherein the secondary station has means (104, 102) for measuring at least one characteristic of the data channel and for transmission of reports relating to one or more of the measured channel characteristics to the primary station on the uplink control channel, wherein the primary station has time signalling means (102) for instructing the secondary station, via the downlink control channel, of the length of time during which channel measurements used to generate each report should be made and wherein the primary station has means (102) for determining at least one operational parameter of the data channel depending on the reports.

2. A primary station (100) for use in a communication system having a downlink data channel (122) for the transmission of data packets from the primary station to a secondary station (110) and uplink and downlink control channels (124, 122) for the transmission of control information between the primary and secondary stations, wherein means (104) are provided for receiving on the uplink control channel reports relating to one or more measured channel characteristics of the data channel from the secondary station, time signalling means (102) are provided for instructing the secondary station, via the downlink control channel, of the length of time during which channel measurements used to generate each report should be made and means (102) are provided for determining at least one operational parameter of the data channel depending on the reports.

3. A primary station as claimed in claim 2, characterised in that the time signalling means (102) signals the number of measurements to be made to generate each report.

4. A primary station as claimed in claim 2 or 3, characterised in that the time signalling means (102) signals the interval between each of the measurements to be made to generate each report.

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5. A primary station as claimed in claim 2, characterised in that means (104, 102) are provided for determining the speed of the secondary station and in that the time signalling means (102) is responsive to the determined speed to vary the signalled length of time.

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6. A primary station as claimed in any one of claims 2 to 4, characterised in that the time signalling means (102) signals a plurality of lengths of time, each corresponding to a different soft handover state.

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7. A primary station as claimed in any one of claims 2 to 4, characterised in that the time signalling means (102) signals a plurality of lengths of time, each corresponding to a different downlink activity level.

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8. A primary station as claimed in any one of claims 2 to 4, characterised in that the time signalling means (102) signals a plurality of lengths of time, each corresponding to a different downlink activity level.

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9. A primary station as claimed in claim 8, characterised in that the time signaling means (102) signals the duration of a timer, activated by downlink packet activity.

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10. A secondary station (110) for use in a communication system having a downlink data channel (122) for the transmission of data packets from a primary station (100) to a secondary station and uplink and downlink control channels (124, 122) for the transmission of control information between the primary and secondary stations, the secondary station comprising means (114, 112) for measuring at least one characteristic of the data channel, means

(114) for transmitting reports relating to one or more of the measured channel characteristics to the primary station on the uplink control channel, and means (112) for varying the length of time during which channel measurements used to generate each report are made.

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11. A secondary station as claimed in claim 10, further comprising means (114, 112) for receiving via the down link control channel instructions of the length of time during which the channel measurements are made.

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12. A secondary station as claimed in claim 10, further comprising means (112) for determining the length of time during which the channel measurements are made.

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13. A secondary station as claimed in claim 10, 11 or 12 characterised in that the measured characteristic is one of: bit error rate; signal to noise ratio; signal to interference ratio.

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14. A secondary station as claimed in any of claims 10 to 12, characterised in that the primary and secondary stations (100, 110) each comprise a plurality of antennas and in that the reports relate to a plurality of combinations of paths between antennas.

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15. A secondary station as claimed in claim 12, characterised in that means (112, 114) are provided for signalling to the primary station (100) on the uplink control channel the length of time for which channel measurements are made.

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16. A secondary station as claimed in any one of claims 10 to 12, characterised in that means (112) are provided for setting a timer on receipt of a data packet and for altering the length of time during which channel measurements are made while the timer is running.

17. A secondary station as claimed in claim 12 or 15, characterised in that the length of time during which channel measurements are made is varied depending on at least one of the soft handover state, the active set size and the downlink packet activity level.

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18. A method of operating a communication system having a downlink data channel for the transmission of data packets from a primary station to a secondary station and uplink and downlink control channels for the transmission of control information between the primary and secondary stations, wherein the secondary station measures at least one characteristic of the data channel and transmits reports relating to one or more of the measured channel characteristics to the primary station on the uplink control channel, wherein the primary station instructs the secondary station, via the downlink control channel, of the length of time during which channel measurements used to generate each report should be made and wherein the primary station determines at least one operational parameter of the data channel depending on the reports.

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